



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,347	02/27/2004	Hajime Kimura	12732-212001 / US7008	2831
26171	7590	07/22/2005	EXAMINER	
FISH & RICHARDSON P.C.			NGUYEN, HIEP	
P.O. BOX 1022			ART UNIT	
MINNEAPOLIS, MN 55440-1022			PAPER NUMBER	
			2816	

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/787,347

Applicant(s)

KIMURA, HAJIME

Examiner

Hiep Nguyen

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-16 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 47-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 17-46 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02-27-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claims 1-4, the recitations “a first current” and “a second current” are indefinite because it is not clear what they are. In figure 1 of the present application, assume that the “first current” is the drain-source current, there is no second current seen to flow through the transistor.

Regarding claim 47, the recitation “supplying a first current to a transistor which supplies a current to a load; generating at a gate terminal of the transistor a first voltage required for the transistor to flow the first current” is indefinite because is misdescriptive. It appears like “supplying a first current to a transistor..” and “generating at a gate terminal...” are two separate steps. As understood by the examiner, these two steps is considered to be only one step. When a first voltage is applied to the gate terminal, a current will flow through the transistor. The recitation “supplying a second current to the transistor after generating the first voltage; and generating at a gate terminal of the transistor a second voltage required for the transistor to flow the second current” on lines 5-7 is indefinite for the same above reason. The recitation “a gate terminal”: on lines 7 should be changed to “the gate terminal”.

Regarding claim 49, the recitation “supplying a second current...to flow the first current” on lines 2-4 is indefinite because it is misdescriptive. A current is supplied to the transistor when a voltage is generated and applied to the gate of the transistor. This is one step method instead of two step method as recited. The same rationale is applied to the steps on lines 5-7 and 8-10.

Claims 5, 6, 48 and 50 are indefinite because of the technical deficiencies of claims 4, 47 and 49.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2816

A person shall be entitled to a patent unless –

Claims 1, 4, and 47-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Knoedgen (USP. 6,710,995).

Regarding claim 1, figure 3 of Knoedgen shows a semiconductor device comprising: a transistor (M1) which supplies a first current to the load (F1); a means (M2-M4) for making a potential of a gate terminal of the transistor at a predetermined potential by flowing a second current to the transistor.

Regarding claim 4, figure 3 of Knoedgen shows a load (F1); a transistor ((M1) which supplies a first current to the load; a means (M2-M4) for making a potential of a gate terminal of the transistor at a predetermined potential by flowing a second current to the transistor when switch (S1) is turned off and element (174) is in tri-state mode; means (174) for making a potential of the gate terminal of the transistor (M1) at a predetermined second potential by flowing a third current to the transistor when switch (S1) is turned on and element (174) is activated (col. 16-29).

Regarding claims 47 and 48, figure 3 of Knoedgen shows driving method of a semiconductor device comprising the steps of: supplying a first current to a transistor (M1) which supply a current to a load when switch (S1) is turned ON and element (174) is activated (col. 16-29), the voltage supplied to the gate of transistor (M1) is from elements (M2-M4) and (174); generating at a gate terminal of the transistor a second voltage required for generating the first current when switch (S1) of OFF and element (174) is disabled. The first current is larger than the second current because the first current is the sum of the current flowing through elements (M2-M4) and the current generated by element (174) when switch (S1) is turned ON.

Regarding claims 49 and 50, figure 3 of Knoedgen shows a driving method of a semiconductor device comprising:

applying a voltage to the gate of the transistor (M1) when switch (S1) is turned OFF and element (174) is in tri-state mode to generate a first current;

applying a voltage to the gate of transistor (M1) to generate a second current by closing switch (S1) and activating element (174) and applying a LOW control input;

Art Unit: 2816

applying a voltage to the gate of transistor (M1) to generate a third current by closing switch (S1) and activating element (174) and applying a high control input.

The first and second currents are larger than the third current.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 5 and 6 are rejected under 35 U.S.C.103 (a) as being unpatentable over Knoedgen (USP. 6,710,995).

Regarding claim 2, 3, 5 and 6, figure 3 of Knoedgen includes all the limitations of these claims except for the limitation that the device provides current to drive a display element, a signal line. However, the circuit of Knoedgen can drive a load, it can provide current to drive other loads such as a display element, a signal line.

Allowable Subject Matter

Claims 7-16 are allowed.

Claims 7-16 are allowed because the prior art of records (USP. 6,710,995) fails to teach or suggest a semiconductor comprising: a load, a constant current source, first, second and third power source lines, first and second transistors and first, second and third switches connected as called for in claim 7. Therefore, claims 7-16 are presently allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep Nguyen whose telephone number is (571) 272-1752. The examiner can normally be reached on Monday to Friday from 7:30am to 4:00pm.

Art Unit: 2816

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hiep Nguyen

07-12-05



MY-TRANG NUTON
PRIMARY EXAMINER